

5 Reciprocating compressor, in particular CO₂ compressor for
 vehicle air-conditioning units

CLAIMS

- 10 1. Reciprocating compressor (100), in particular CO₂
 compressor for vehicle air-conditioning units, with a
 swivel disk (107), in particular annular in form, that is
 rotated by a drive shaft (104) and is positioned at an
 adjustable angle with respect to the drive shaft (104),
15 wherein said disk is connected in an articulated manner to
 a sliding sleeve (108) that can be moved axially along the
 drive shaft (104) as well as to at least one supporting
 element (109) so disposed that it is spaced apart from the
 drive shaft (104) and rotates therewith, and wherein each
20 of the pistons (106) comprises a joint arrangement (110)
 with which the swivel disk (107) is in sliding engagement,
 characterized in that
 the articulated connection (116) between drive shaft (104)
 and swivel disk (107) serves substantially only to transmit
25 torque, and the supporting element (109) serves
 substantially only to provide axial support to the pistons
 (106) and hence to absorb the force exerted by the gas.
2. Compressor according to Claim 1,
 characterized in that the supporting element (109) is
30 constructed in a spherical, cylindrical or barrel shape and
 is connected to the drive shaft (104) by way of an in
 particular rod-like force-transmission element (114).
3. Compressor according to Claim 1 or 2,
 characterized in that the force-transmission element (114)
35 associated with an annular swivel disk (107) is a pin that

projects away from the drive shaft (104) at an angle, so that when the swivel disk (107) is tilted at an intermediate position, the pin axis is oriented radially with respect to the swivel disk (107).

- 5 4. Compressor according to Claim 1 or 2,
characterized in that the supporting element (109) is
disposed at the free end of an L-shaped force-transmitting
element (114), one limb (126) of which extends
10 approximately parallel to the drive shaft (104) and is
supported axially against a bearing plate (127) or similar
radial projection that is nonrotatably connected to the
drive shaft (104).
- 15 5. Compressor according to one of the claims 1 to 4,
characterized in that the swivel disk (107) comprises a
slot (115) that defines a space to be engaged by the
supporting element (109), the long axis of said slot being
oriented radially while its longer cross-sectional axis
extends in the circumferential direction.
- 20 6. Compressor according to one of the claims 1 to 5,
characterized in that the center (122) of the supporting
element (109) lies on a circular line that either coincides
with the circle on which the midpoints of the piston-joint
arrangements (110) lie or extends radially slightly beyond
said circle.
- 25 7. Compressor according to one of the claims 1 to 6,
characterized in that two supporting elements (109) are
provided, which provide support in axially opposite
directions.